Academic Research on PFAs

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References

- Howland, M. & Sohn, J. (2007). Will Maryland's Priority Funding Areas Initiative contain urban sprawl? *Land Use Policy, 24*(1), 175–186.
- Hanlon, B., Howland, M. & McGuire, M. (2009) Hotspots for Growth: Land Use Change in a Transitional County in the U.S. *Working Paper.*
- Lewis, R., Knaap, G-J. & Sohn, J. (forthcoming 2009). Managing Urban Growth with Priority Funding Areas: A Good Idea Whose Time Has Yet to Come. *Journal of the American Planning Association*, *75*(4).
- Shen, Q., & Zhang, F. (2007). Land Use Changes in a Pro-Smart Growth State: Maryland, USA. *Environment and Planning A*, *39*(6), 457–477.
- Sohn, J., & Knaap, G.J. (2005). Does Job Creation Tax Credit program in Maryland help concentrate employment growth? *Economic Development Quarterly, 19*(4), 313–326.

Does the Job Creation Tax Credit Program in Maryland Help Concentration Employment Growth?

Jungyul Sohn and Gerrit Knaap

Economic Development Quarterly
2005

Sohn and Knaap (2005)

Considering job creation in PFAs by industry 1994-1998. Before and after analysis. Controls for endogeneity.

Key Points:

- More jobs were created inside PFAs after 1997 holding all other things constant.
- Time series quite limited.
- The differential in job growth across the PFA, however, was small and occurred only in a few selected industries.
  - Transportation, communication, utilities, and services concentrated in PFAs
  - Primary sector, manufacturing, finance, insurance, real estate unaffected

Has Maryland's priority funding areas initiative constrained the expansion of water and sewer investments?

Marie Howland and Jungyul Sohn

Land Use Policy
2007

Howland and Sohn (2007)

Effect of PFAs on water and sewer expansion from 1997-2002.
Key Findings:

- Between 1997-2002 –
  - 42% of spending inside PFAs, 15% outside, and 44.5% indeterminate,
  - but of determined projects – 70% inside and 30% outside
- State contributes 8% of total funding for water and sewer infrastructure

- Projects that receive a state subsidy are more likely to be sited inside PFAs than projects where no state funding is involved.
- Higher levels of state funding to counties, i.e. the income effect, do not appear to result in greater spending outside the PFA. Thus to the extent that state funds are available and used as a carrot, they constrain sprawl.
- Wealthier counties, as measured by median family income, are more likely to concentrate their water and sewer investments inside their PFAs, even though these high income counties are less likely to be at the table for subsidies.
- Overall, investment in infrastructure more likely inside PFAs than outside

Table 3
Share of water and sewer projects outside and inside PFAs, by year

Year completed	% of projects		
	Outside	Inside	Total
1997	37	63	100
1998	33	67	100
1999	32	68	100
2000	24	76	100
2001	29	71	100
2002	26	74	100
Total	30	70	100

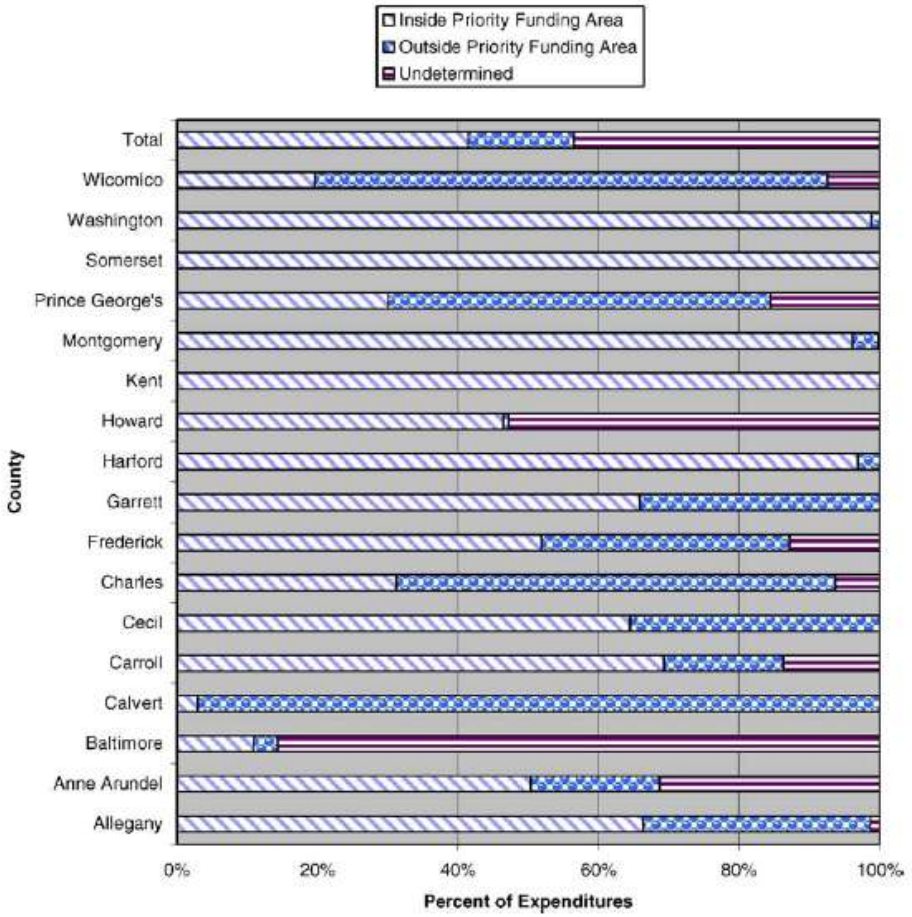


Fig. 4. Share of water and sewer funding in- and outside PFA boundaries, by County, 1997–2002 (see footnote 1).

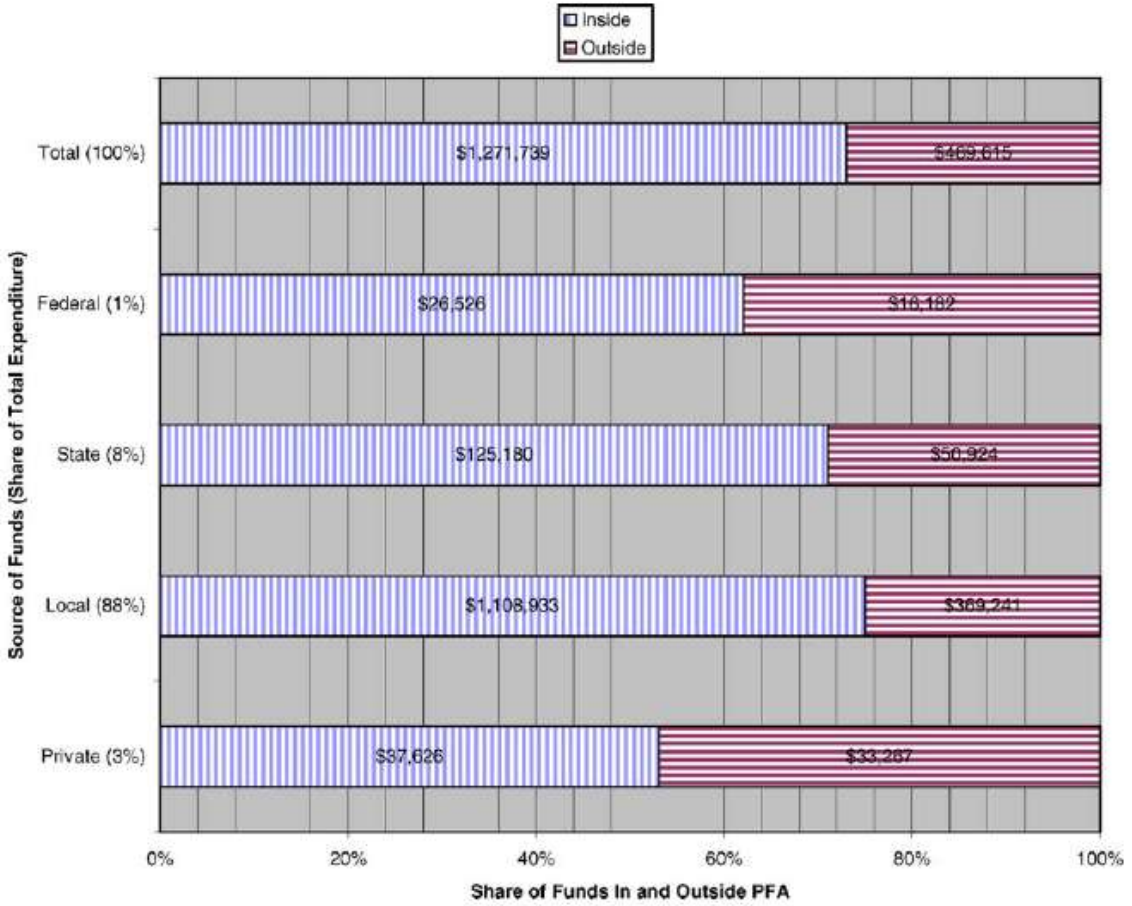


Fig. 5. Source and share of funds for all water and sewer projects in- and outside PFA, excluding location indeterminate projects 1997–2002. Total expenditures is reported in graph in $000s.

Land Use Changes in a Pro-Smart Growth State, Maryland, USA

Environment and Planning A
Qing Shen and Feng Zhang
2007

Shen and Zhang (2007)

Effect of PFAs and RLAs on land use conversion before and after – 1992-1997 and 1997-2002.

Key Findings:

- odds of land-use change from nonurban to urban are almost 2.3 times higher for land located within PFAs than for otherwise comparable land located outside PFAs, everything else being constant.

- Areas now designated as PFA had been the locations for much of the urban growth during the pre-smart-growth years, the 1997 legislation and its programs reinforced the pattern of relatively concentrated development.

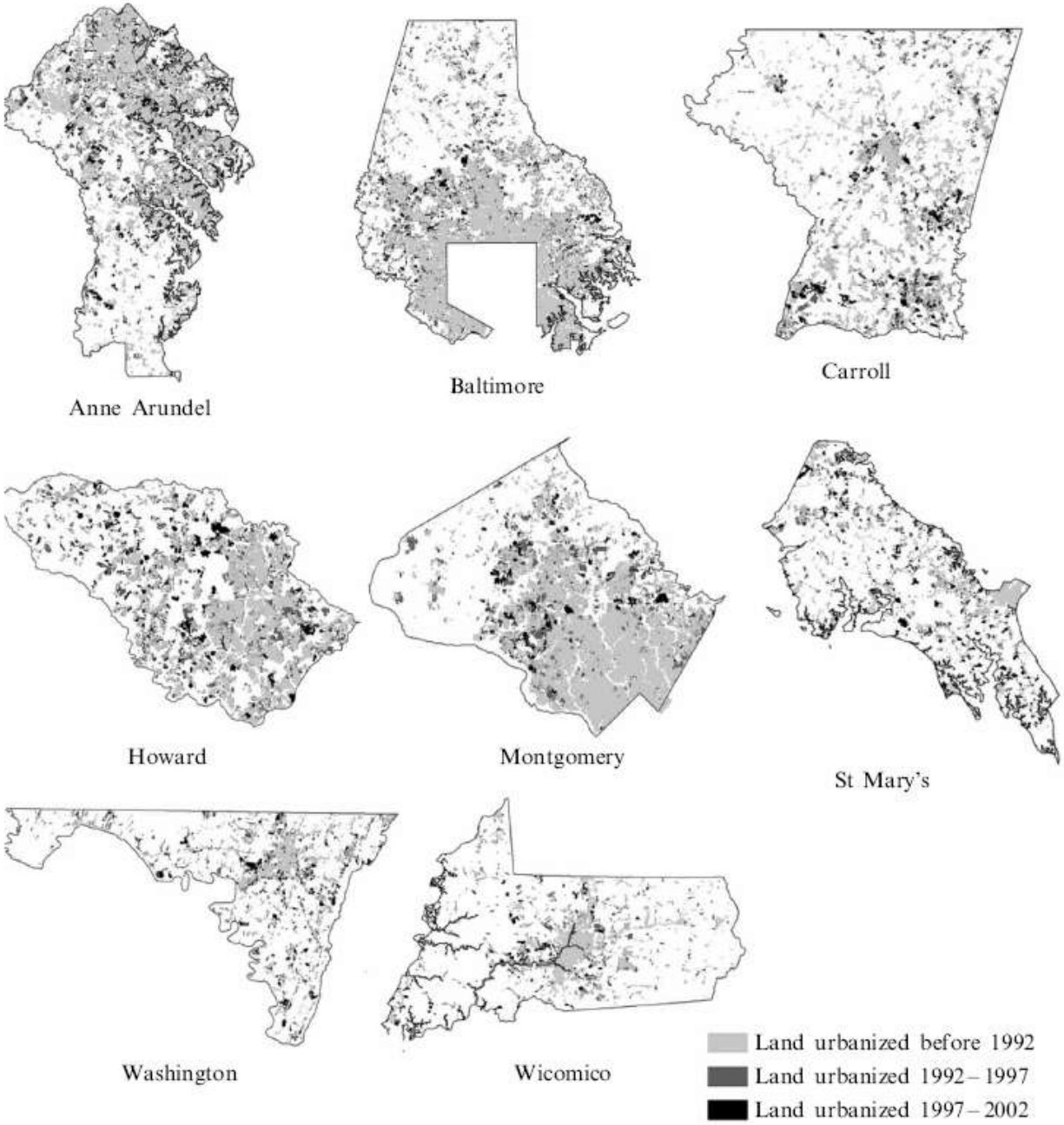


Figure 2. Land-use changes in eight Maryland counties, 1992 – 2002.

Hotspots for Growth: Land Use Conversion in a Transitional County in the U.S

Bernadette Hanlon
Marie Howland
Michael P. McGuire

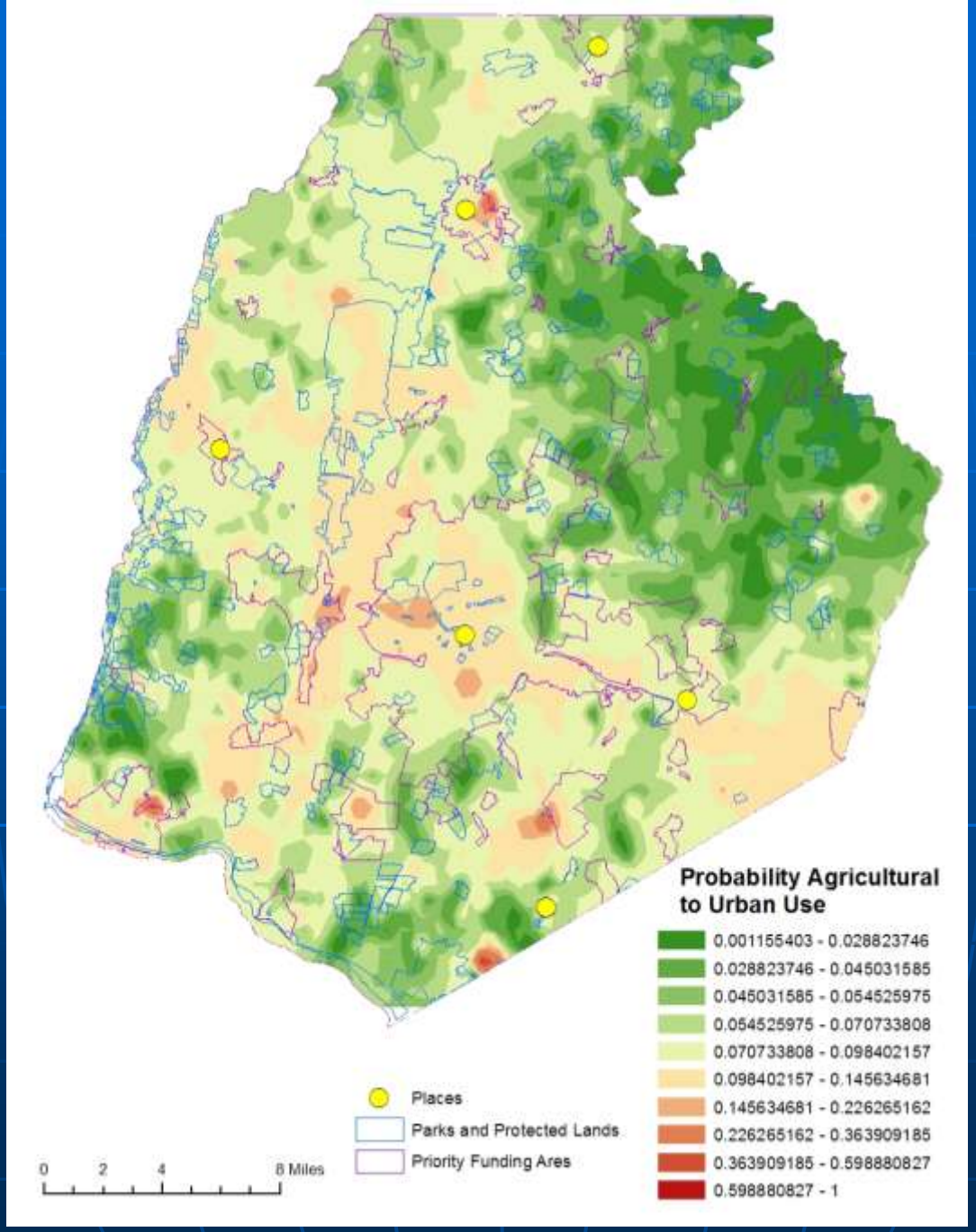
Working Paper
Funded by Center for AgroEcology
Presented at Smart Growth @10

Hanlon, Howland, McGuire (2009)

Focuses on Frederick County – probability of conversion, parcel base, no controls for endogeneity

Key Findings:

- At the mean value for all other variables, for every 100 parcels that changed land use from agriculture to urban land, 55% were inside of PFAs and 45% were outside.
- positive impact on preserving agricultural land and directing urban development into the PFAs but not 100% effective in preserving agricultural land.


Probability Agricultural to Urban Use
0.001155403 - 0.028823746
0.028823746 - 0.045031585
0.045031585 - 0.054525975
0.054525975 - 0.070733808
0.070733808 - 0.098402157
0.098402157 - 0.145634681
0.145634681 - 0.226265162
0.226265162 - 0.363909185
0.363909185 - 0.598880827
0.598880827 - 1
Places
Parks and Protected Lands
Priority Funding Ares
0
2
4
8 Miles

Managing Urban Growth with Priority Funding Areas: A Good Idea Whose Time Has Yet to Come

Rebecca Lewis, Gerrit-Jan Knaap, Jungyul Sohn

Journal of the American Planning Association
Forthcoming

Knaap, Lewis, Sohn (2009)

Examining PFA construction, implementation and effects over 10 years (before and after analysis.)

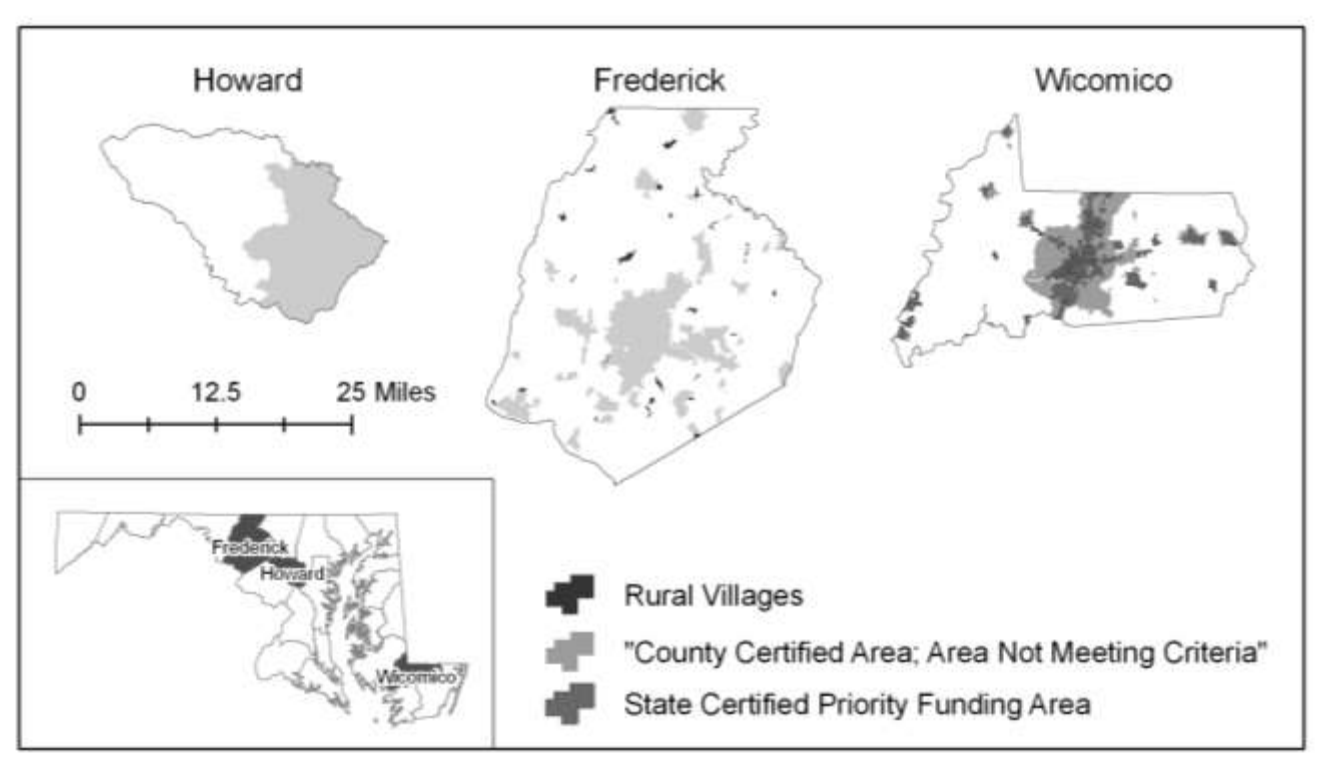
Key Findings:

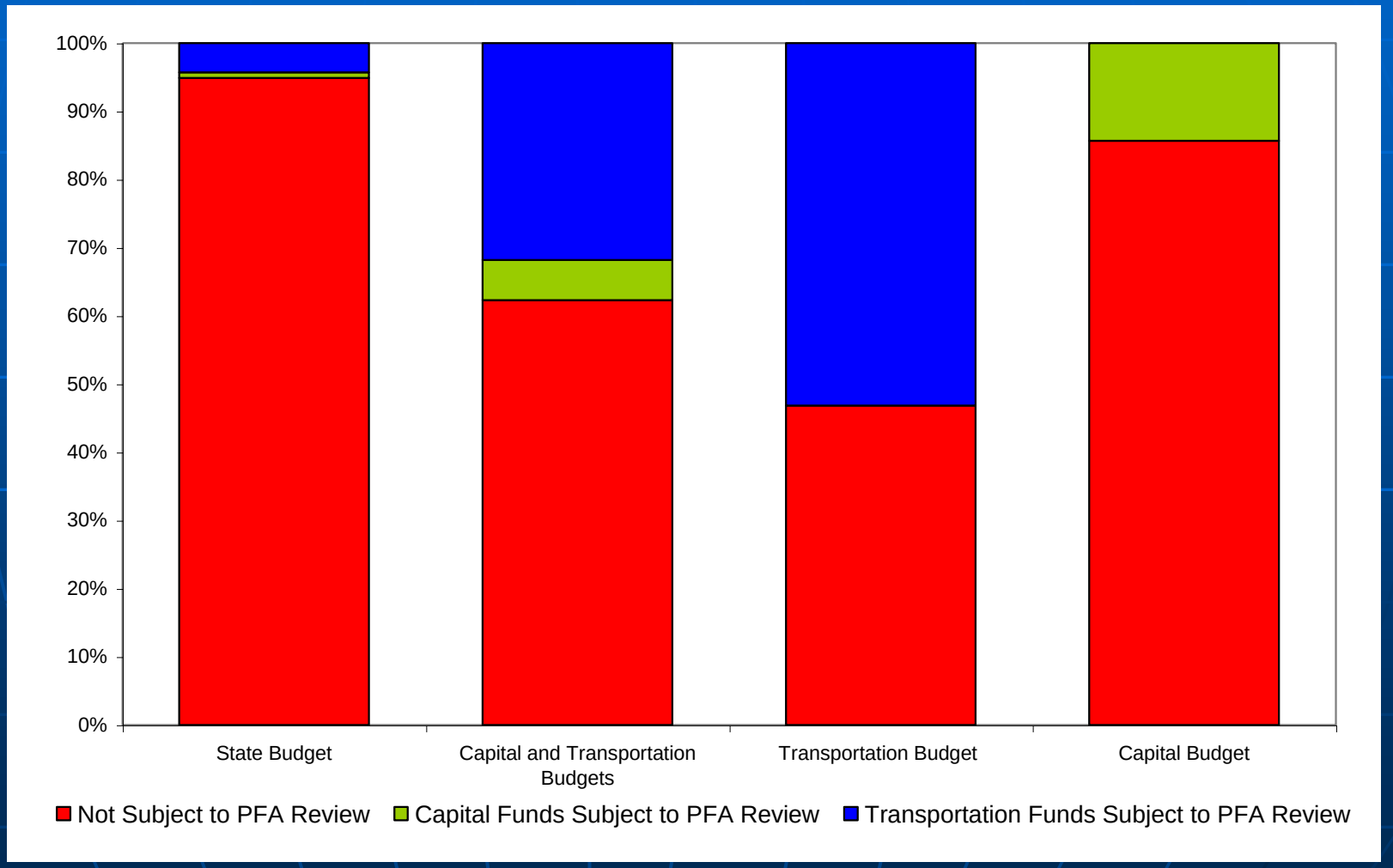
- Construction
  - Patterns vary across regions of state – dispersed, continguous, too big
- Implementation
  - Not in all comp plans
  - Not all agencies track spending and exceptions to degree required by law
  - Average of approximately $1.1 billion per year (five percent of the annual state budget)
  - MDOT 85 percent of all capital and transportation appropriations subject to PFA review.

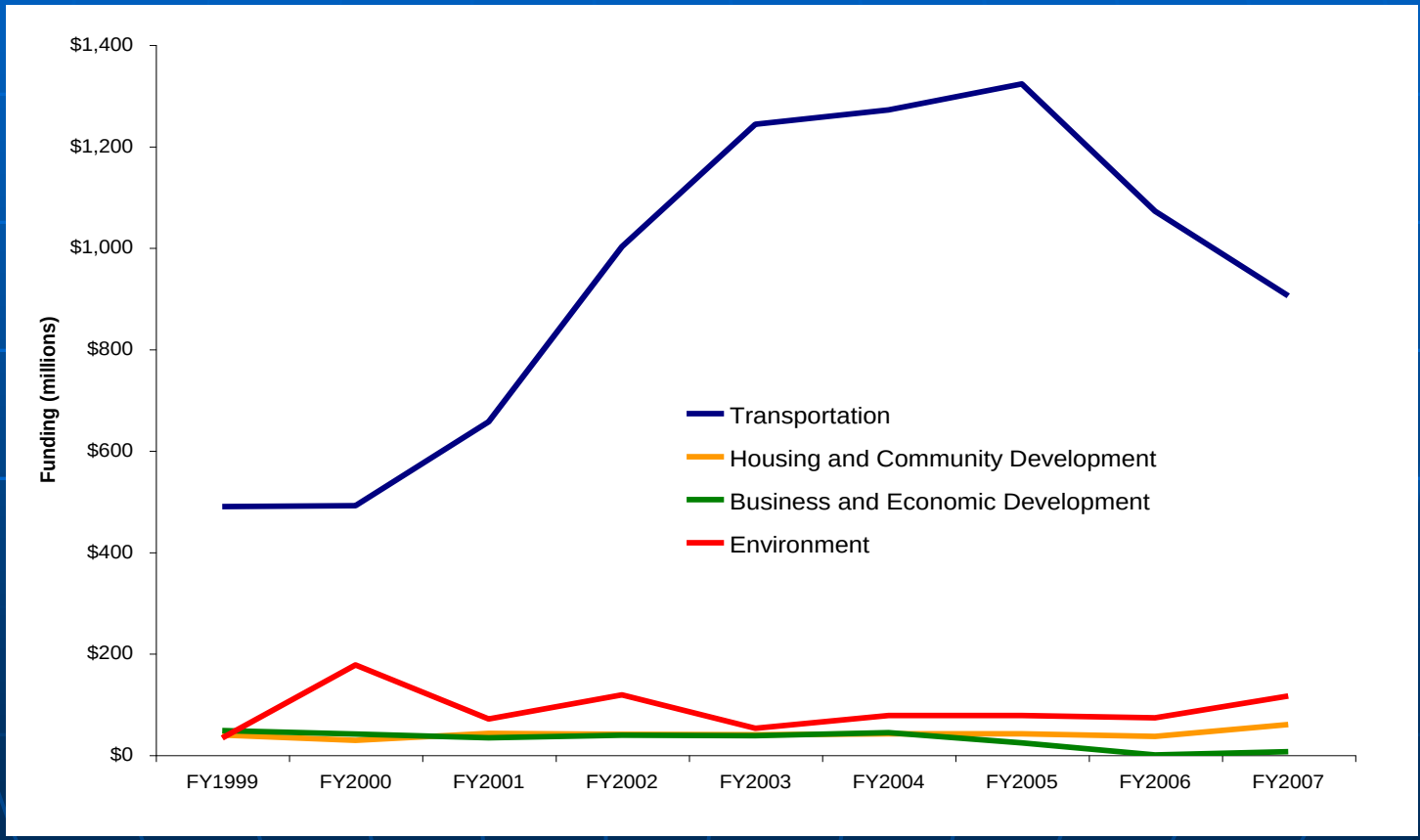
County	Total			Inside PFA			Outside PFA		
	Pre-PFA	Post-PFA	Ratio (Post/Pre)	Pre-PFA	Post-PFA	Ratio (Post/Pre)	Pre-PFA	Post-PFA	Ratio (Post/Pre)
Allegany	1.89	2.27	1.2	0.86	0.89	1.04	4.35	4.32	0.99
Frederick	0.68	0.64	0.95	0.25	0.23	0.91	2.7	2.72	1.01
Garrett	2.3	2.25	0.98	0.64	0.63	0.98	2.57	2.51	0.98
Washington	1.23	1.13	0.92	0.43	0.41	0.96	2.76	2.59	0.94
Western Maryland	**1.53**	**1.57**	**1.03**	**0.55**	**0.54**	**0.99**	**3.10**	**3.04**	**0.98**
Anne Arundel	0.39	0.49	1.28	0.17	0.17	1.02	1.18	1.2	1.02
Baltimore	0.54	0.64	1.18	0.17	0.2	1.18	2.53	2.25	0.89*
Carroll	1.21	1.16	0.96	0.41	0.36	0.87	2.46	2.57	1.04*
Harford	0.67	0.77	1.16	0.2	0.23	1.12*	3.21	2.73	0.85*
Howard	0.65	0.67	1.02	0.24	0.26	1.06	2.73	1.91	0.70*
Montgomery	0.46	0.47	1.03	0.19	0.17	0.91	1.86	1.67	0.90*
Prince George's	0.32	0.39	1.23	0.22	0.26	1.18*	1.55	1.18	0.76*
Central Maryland	**0.61**	**0.66**	**1.08**	**0.23**	**0.24**	**1.03**	**2.22**	**1.93**	**0.87**
Calvert	1.18	1.16	0.99	0.5	0.43	0.85	1.92	1.65	0.86*
Charles	1.12	1.21	1.08	0.22	0.23	1.08	2.95	2.53	0.86*
St. Mary's	1.62	1.75	1.08	0.43	0.49	1.15	2.38	2.62	1.10*
Southern Maryland	**1.31**	**1.37**	**1.05**	**0.38**	**0.38**	**1.00**	**2.42**	**2.27**	**0.94**
Caroline	2.27	2.1	0.93	0.46	0.29	0.63	2.85	2.98	1.04
Cecil	1.26	1.12	0.89	0.24	0.23	0.97	1.86	1.84	0.99
Dorchester	2.07	1.58	0.76	0.57	0.6	1.05	2.49	2.12	0.85
Kent	1.35	1.43	1.06	0.62	0.65	1.06	2.02	2.2	1.09
Queen Anne's	1.07	0.95	0.89	0.31	0.31	1.01	1.81	1.76	0.98
Somerset	1.81	1.76	0.97	1.11	1.04	0.94	2.38	2.86	1.2
Talbot	1.67	1.23	0.74	0.66	0.42	0.64*	3.25	3.43	1.05
Wicomico	1.11	0.93	0.83	0.76	0.6	0.79*	2	1.81	0.9
Worcester	0.53	0.58	1.1	0.24	0.25	1.05	1.24	1.71	1.37*
Eastern Shore	**1.46**	**1.30**	**0.89**	**0.55**	**0.49**	**0.88**	**2.21**	**2.30**	**1.04**
State Total	**0.73**	**0.79**	**1.07**	**0.25**	**0.26**	**1.03**	**2.23**	**2.07**	**0.93**

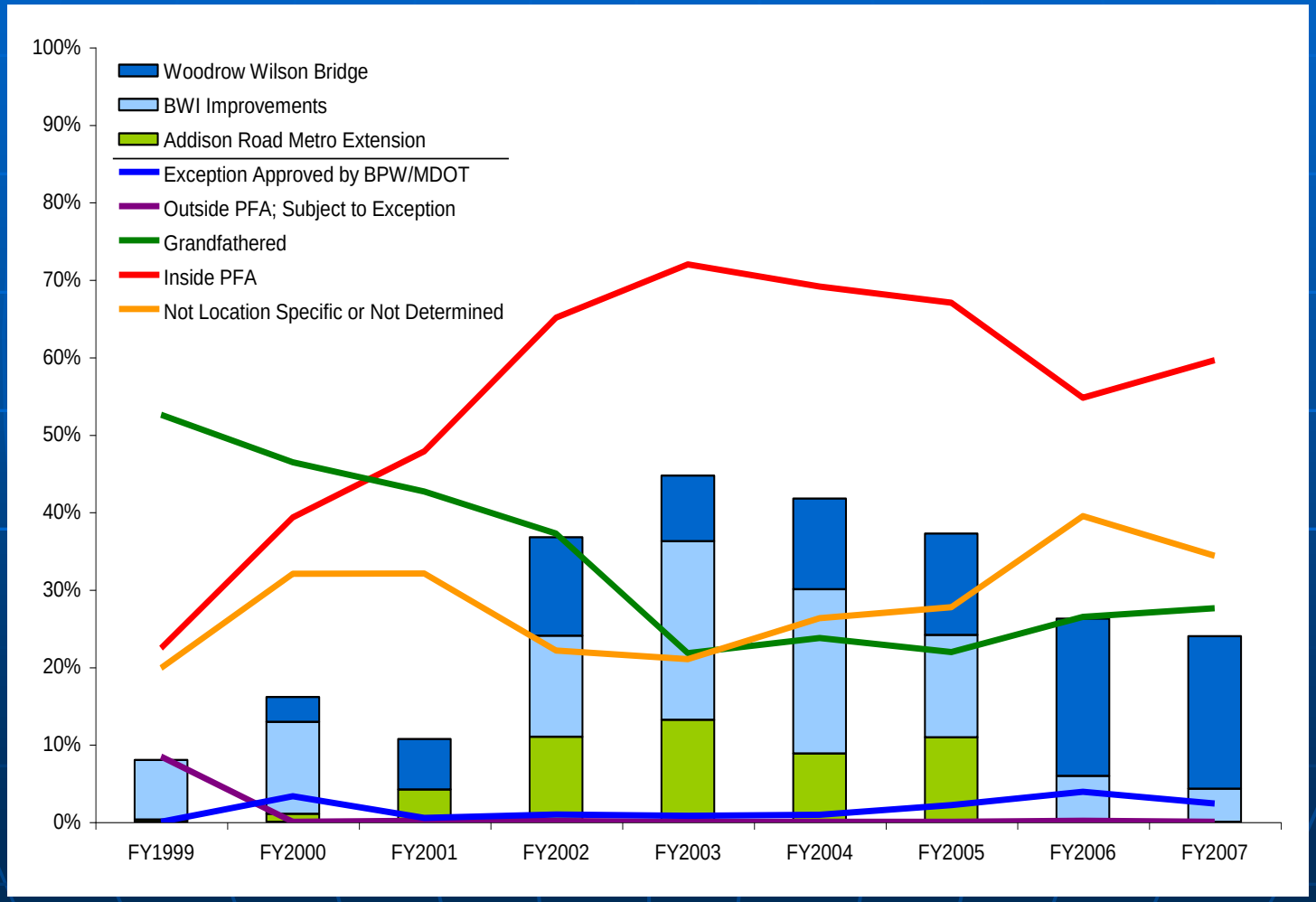
Table 4: Average Annual Parcel Size for Single Family Units before and After PFAs

*- statistically significant difference at the 95 percent confidence level

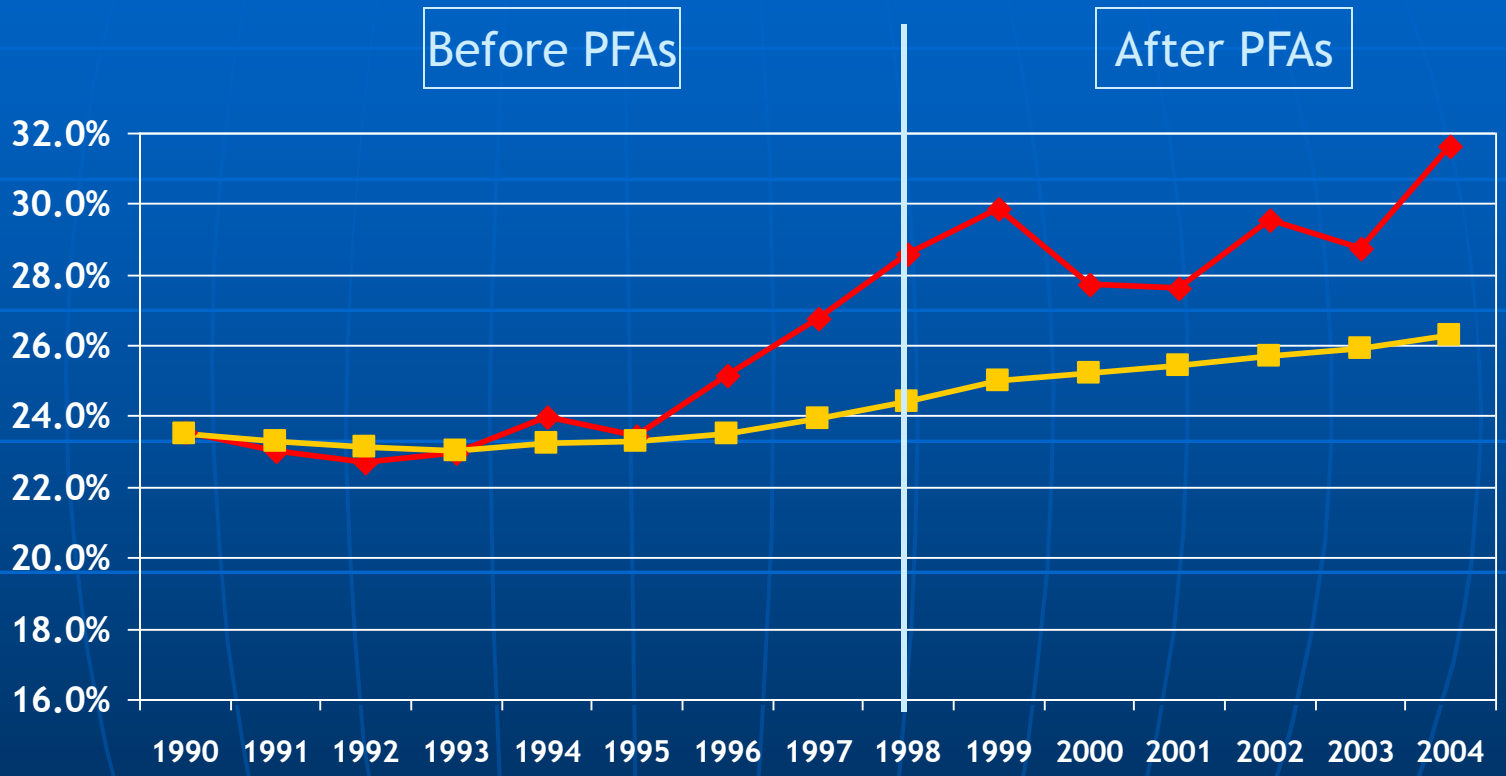

Howard
Frederick
Wicomico
0
12.5
25 Miles
Frederick
Howard
Wicomico
Rural Villages
"County Certified Area; Area Not Meeting Criteria"
State Certified Priority Funding Area


100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
State Budget
Capital and Transportation Budgets
Transportation Budget
Capital Budget
Not Subject to PFA Review
Capital Funds Subject to PFA Review
Transportation Funds Subject to PFA Review


$1,400
$1,200
$1,000
$800
$600
$400
$200
$0
Funding (millions)
FY1999
FY2000
FY2001
FY2002
FY2003
FY2004
FY2005
FY2006
FY2007
Transportation
Housing and Community Development
Business and Economic Development
Environment

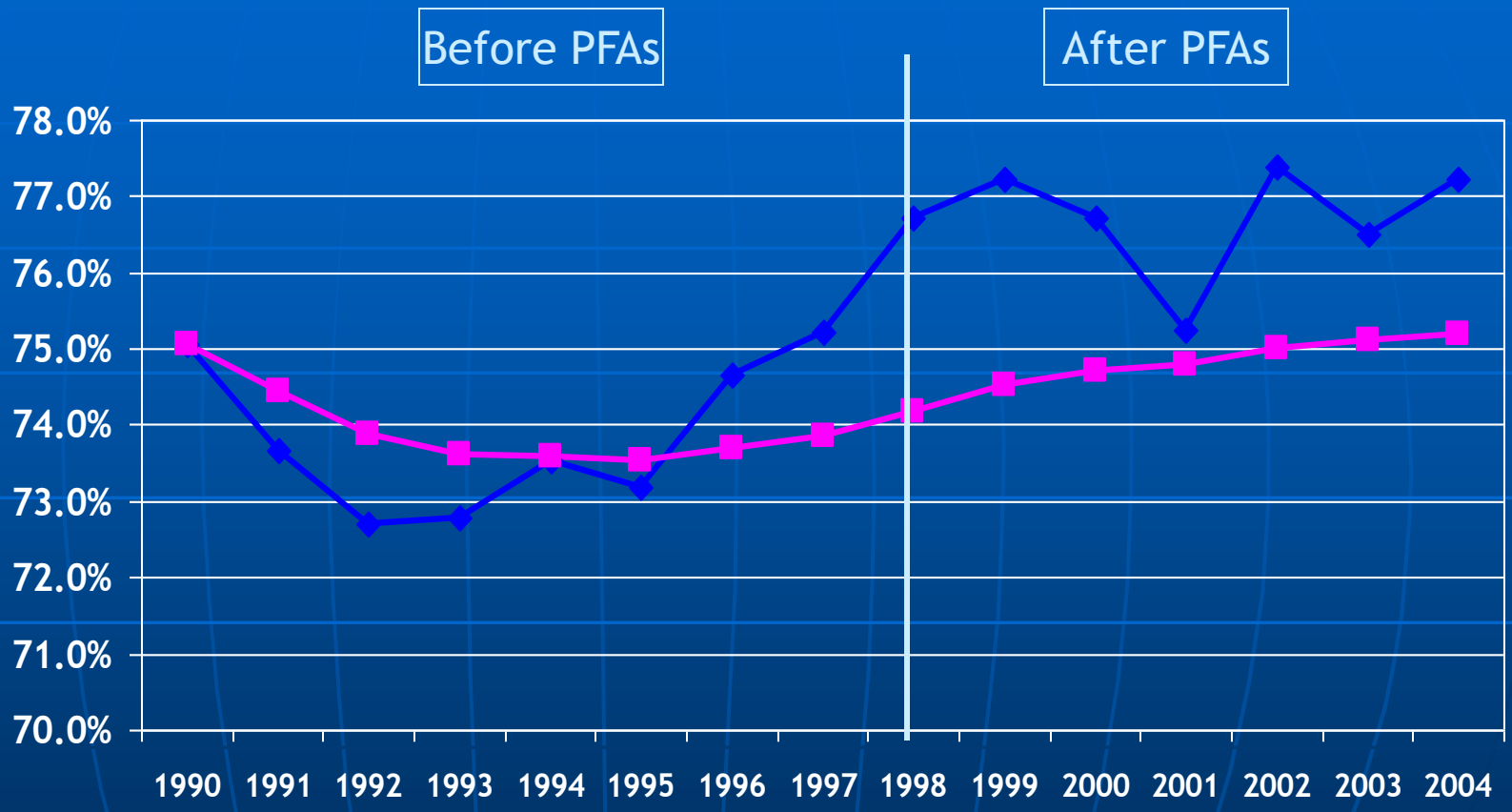

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Woodrow Wilson Bridge
BWI Improvements
Addison Road Metro Extension
Exception Approved by BPW/MDOT
Outside PFA; Subject to Exception
Grandfathered
Inside PFA
Not Location Specific or Not Determined
FY1999
FY2000
FY2001
FY2002
FY2003
FY2004
FY2005
FY2006
FY2007

Improved *Residential Parcels* Outside of PFAs as a % of Total Residential Parcels in Maryland, 1990 - 2004



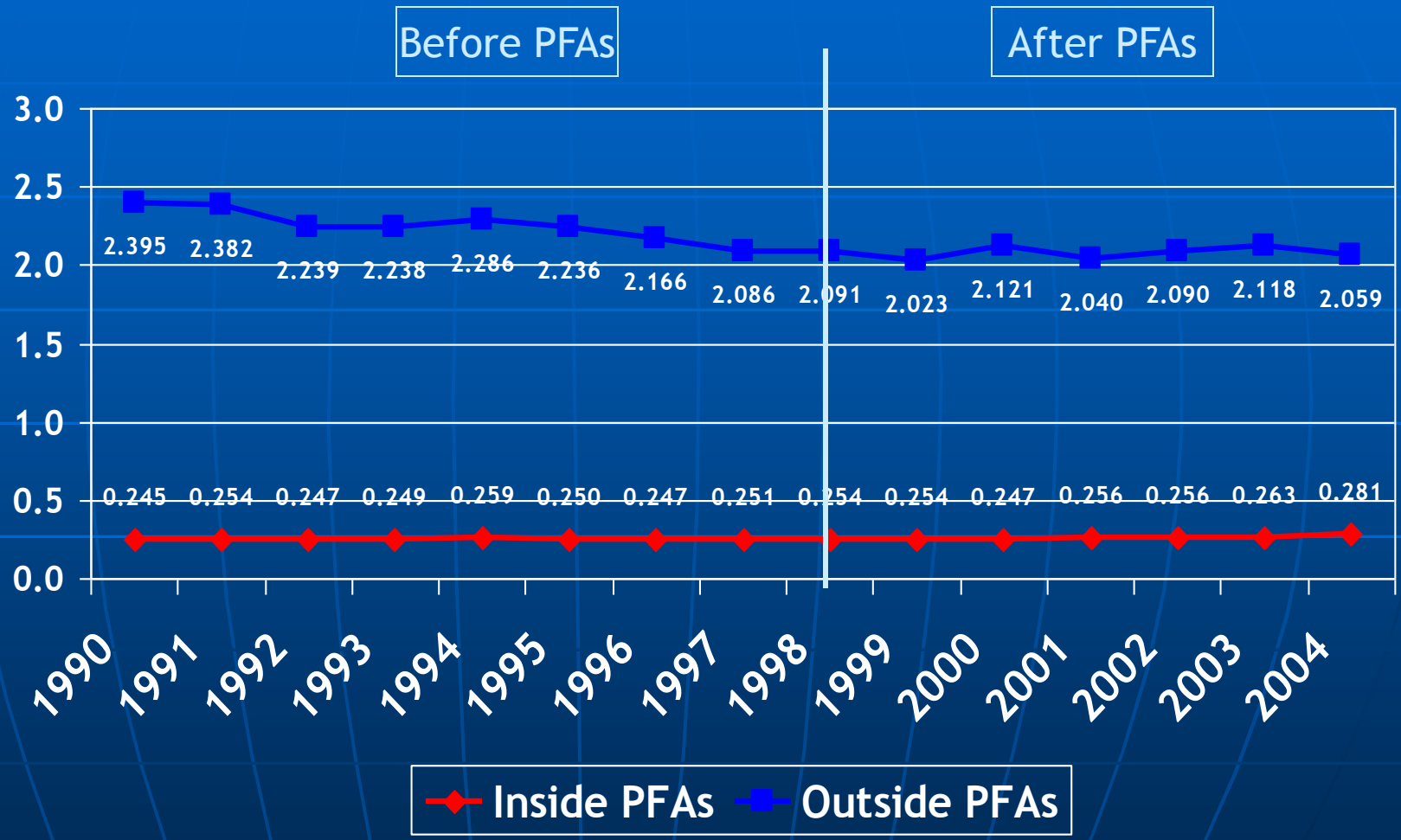
Prepared by the Maryland Department of Planning, Planning Data Services, November 2006. Source of data is MDProperty View. Data is for improved residential single-family parcels of $1,000 or more on parcels of 20 acres or less.

Improved *Residential Acres* Outside of PFAs as a % o
Total Residential Acres in Maryland, 1990 - 2004



Prepared by the Maryland Department of Planning, Planning Data Services, November 2006. Source of data is MDProperty View. Data is for improved residential single-family parcels of $1,000 or more on parcels of 20 acres or less.

Average Acre Per Parcel in Maryland, Inside and Outside PFAs, 1990 - 2004



Residential Development Patterns

Number of Counties		
	Higher after 1998	**Lower after 1998**
Number of Parcels		
Share inside PFA	14 [3 sig]	9 [8 sig]
Total outside PFA	17 [4 sig]	6 [2 sig]
Acres Developed		
Share inside PFA	10 [3 sig]	13 [4 sig]
Total outside PFA	16 [3 sig]	7 [0 sig]
Parcel Size		
Size inside PFA	12 [2 sig]	11 [2 sig]
Size Outside PFA	9 [3 sig]	14 [7 sig]

SMART GROWTH IN MARYLAND: LOOKING FORWARD AND LOOKING BACK

Gerrit Knaap and John Frece
Idaho Law Review
2007

Nine Issues

- Location
- Size and Shape
- PFA Criteria
- Relationship to local plans
- Public participation
- Size of incentives
- Gubernatorial Support
- Penalty for noncompliance
- Build out and revision

Conclusions

- There is some evidence that PFAs have effects at the margin
- Overall, PFAs not effectively containing residential growth
- Several logical and administrative issues remain
- Little evidence incentives serve as effective containment instruments

Parting Thoughts

- Logic verses politics
- 1992 verses 1997

Thanks to Gnomehead and others